

Notice of Allowability

Application No.

10/667,838

Examiner

Laura C. Guidotti

Applicant(s)

PARK ET AL.

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 20 March 2007.
2. ☒ The allowed claim(s) is/are 1 and 8-13.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other Attachment A.


GLADYS JP CORCORAN
SUPERVISORY PATENT EXAMINER

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

In the specification:

In the Applicant's Amendment to the specification of 07 November 2007, it appears that the Applicant inadvertently stated incorrect page and line numbers regarding the placement of the replacement paragraphs. The paragraph that the Applicant refers to as "[0054]" begins on page 11 line 15 and ends on page 12 line 3. See "Attachment A" attached. Please insert Applicant's paragraph [0054] in the correct location.

The following is an examiner's statement of reasons for allowance:

None of the prior art made of record includes the suction brush body having a height adjusting knob as claimed, in particular Harsh, Watanabe et al., and Lagerstrom et al. do not disclose a particular seating member having multiple fixing grooves formed in a length direction of the seating member to be apart from each other at regular intervals. As stated previously, Lee does include multiple fixing grooves (83) formed in a length direction of the seating member (as shown in Figure 2) to be apart from each

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other at regular intervals (Column 5 Lines 36-39), and each fixing groove has a shape corresponding to the fixing protrusion (as shown in Figure 2; Column 5 Lines 39-42). Lee however *does not include* a height adjusting shaft that *is contacted with* the cam curve portion, rather a height adjusting shaft is in contact with a driving part (61) of a slider (or cam receiver 60) that is directly in communication with the cam curve portion (see Figure 2). Lee operates in another manner as the height adjusting shaft moves in response to the driving part that is driven in response to the knob and the cam curve member.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C. Guidotti whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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GLADYS JP CORCORAN
SUPERVISORY PATENT EXAMINER

Attachment A

Application Serial No. 10/667,838
Reply to Office Action of Aug. 8, 2006

PATENT
Docket: CU-3657

Amendments To The Specification

Please replace paragraph [0054] in the specification, which is the paragraph located on page 13 between lines 8-16, with the following amended paragraph:

→ page 11 line 15 - page 12 line 3

[0054] The height adjusting shaft 500 is disposed in a shaft receiving groove [[211]] 211a at which is formed in the bottom of the brush frame 211, and prevented from separating due to a plurality of latching protrusions 211b formed on the shaft receiving groove 211a. Further, the shaft receiving groove 211a is communicated with a front wheel receiving hole 211c formed through the brush frame 211 so that the front wheel 520 is not interfered with the brush frame 211. Therefore, since the rod member 510 is integrally formed with the height adjusting shaft 500 near the front wheel receiving hole 211c, the rod member 510 can be contacted with the cam curve portion 311 of the height adjusting knob 300.

representing the height of the suction brush body 210 are formed around the seating hole 420. Preferably, the indicating scales S provides seven steps. Each step lifts up and down the suction brush body 210 at a desired distance corresponding to the cam curve portion 311.

Meanwhile, the height adjusting shaft 500 is disposed at the brush frame 211. The
5 height adjusting shaft 500 is integrally formed with a rod member 510 which is contacted with the cam curve portion 311 to be lift up and down according to a rotational direction of the height adjusting knob 300.

According to the first preferred embodiment of the present invention, as shown in FIGS. 3A and 4A, a brush front wheel 520 is rotatably coupled to both bent ends of the height adjusting
10 shaft 500. Therefore, when the height adjusting knob 300 is rotated, the height adjusting shaft 500 is lifted up and down according to the rotation of the height adjusting knob 300. And when the height adjusting shaft 500 is lifted up and down, a position of the brush front wheel 520 contacted with the cleaning surface is also lifted up and down, and thus the suction brush body 210 is spaced apart from the cleaning surface.

→ 15 The height adjusting shaft 500 is disposed in a shaft receiving groove 211a which is formed in the bottom of the brush frame 211, and prevented from separating due to a plurality of latching protrusions 211b formed on the shaft receiving groove 211a. Further, the shaft receiving groove 211a is communicated with a front wheel receiving hole 211c formed through the brush frame 211 so that the front wheel 520 is not interfered with the brush frame 211. Therefore, since

the rod member 510 is integrally formed with the height adjusting shaft 500 near the front wheel receiving hole 211c, the rod member 510 can be contacted with the cam curve portion 311 of the height adjusting knob 300.

Meanwhile, according to the second preferred embodiment of the present invention, as shown in FIGS. 3B and 4B, the height adjusting shaft 500 may include a shaft body 501 which is connected with both ends to the brush front wheel 520, a rotary shaft 502 connected with both ends to the shaft body 501 and secured into the shaft receiving groove 211a to rotate the height adjusting shaft 500, and a reinforcing rib 503 disposed between the shaft body 501 and the rotary shaft 502 to prevent the shaft body 501 from twisting.

The shaft receiving groove 211a is communicated with the front wheel receiving hole 211c formed through the brush frame 211 such that the front wheel 520 does not interfere with the brush frame 211. Further, the height adjusting shaft 500 is prevented from separating because it is secured to the shaft receiving groove 211a by a plurality of screws 504.

Meanwhile, unlike the conventional height adjusting shaft which is made of plastic or steel, the height adjusting shaft 500 according to the present invention is made of aluminum. While the height adjusting shaft made of plastic is light weighted, such plastic height adjusting shaft is apt to break by the load of the cleaner, and while the height adjusting shaft made of steel is robust, it is accompanied with heavy weight. The present invention resolves the above problems by forming the height adjusting shaft 500 with aluminum.

Hereinafter, an operation of the height adjusting apparatus for the upright vacuum cleaner of the present invention will be described in detail with reference to the drawings.

As shown in FIG. 2, in order to adjust the height of the suction brush body 210, the height adjusting knob 300 is disposed in the seating hole 420 formed at the brush cover 212, so that the user can facilely grasp the handle portion 310. Meanwhile, the indicating scales S are provided around the seating hole 420 to represent the height between the suction brush body 210 and the cleaning surface. The indicating scales S may be expressed in figures or geometrical diagrams.

Accordingly, assuming that an initial state is '0', when the user intends to pull apart the suction brush body 210 and the cleaning surface at the desired distance, the user rotates the mark M to indicate a desired one out of the designating scales S. At this time, since each designating scale S is corresponded to each of the recessed grooves 311a of the cam curve portion 311 of the height adjusting knob 300, if the user rotates the height adjusting knob 300, the rod member 510 integrally formed with the height adjusting shaft 500 contacted with the cam curve portion 311 is lifted up and down according to the cam curve portion 311.

That is, the rod member 510 adjusts the position of the brush front wheel 520, while lifting up and down along the cam curve portion 311 of the height adjusting knob 300. As shown in FIG. 8, assuming that the indicating scale S of the first position in which the distance between the suction brush body 210 and the cleaning surface is the shortest is '0', if the user maximally rotates the height adjusting knob 300 so that the mark M indicates the designating scale S of '6', as